

02DD

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (Under 37 CFR 1.97(b) or 1.97(c))			Docket No. 13414 (NECI1083)	
In Re Application Of: A. Peter Blicher et al.				
Serial No. 09/538,209	Filing Date March 30, 2000	Examiner Unassigned	Group Art Unit Unassigned	
Title: METHOD FOR MATCHING A TWO DIMENSIONAL IMAGE TO ONE OF A PLURALITY OF THREE DIMENSIONAL CANDIDATE MODELS CONTAINED IN DATABASE				
Address to: Assistant Commissioner for Patents Washington, D.C. 20231				
37 CFR 1.97(b)				
1. <input checked="" type="checkbox"/> The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application; within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or before the mailing date of a first Office Action on the merits, whichever event occurs last.				
37 CFR 1.97(c)				
2. <input type="checkbox"/> The Information Disclosure Statement submitted herewith is being filed after three months of the filing of a national application, or the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or after the mailing date of a first Office Action on the merits, whichever occurred last but before the mailing date of either:				
1. a Final Action under 37 CFR 1.113, or				
2. a Notice of Allowance under 37 CFR 1.311,				
whichever occurs first.				
Also submitted herewith is:				
<input type="checkbox"/> a certification as specified in 37 CFR 1.97(e);				
OR				
<input type="checkbox"/> the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under 37 CFR 1.97(c).				

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT****(Under 37 CFR 1.97(b) or 1.97(c))**Docket No.  
13414 (NECI1083)In Re Application Of: **A. Peter Blicher et al.**Serial No.  
09/538,209Filing Date  
March 30, 2000Examiner  
UnassignedGroup Art Unit  
Unassigned**Title: METHOD FOR MATCHING A TWO DIMENSIONAL IMAGE TO ONE OF A PLURALITY OF THREE DIMENSIONAL CANDIDATE MODELS CONTAINED IN DATABASE****Payment of Fee**

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- ☐ A check in the amount of \_\_\_\_\_ is attached.
- ☒ The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. 19-1013/SSMP as described below. A duplicate copy of this sheet is enclosed.
- ☐ Charge the amount of \_\_\_\_\_
- ☒ Credit any overpayment.
- ☒ Charge any additional fee required.

**Certificate of Transmission by Facsimile\***

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. \_\_\_\_\_) on \_\_\_\_\_

(Date)

Signature

Typed or Printed Name of Person Signing Certificate

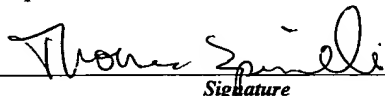
**Certificate of Mailing by First Class Mail**

I certify that this document and fee is being deposited on 4/20/00 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Signature of Person Mailing Correspondence

Mishelle Spina

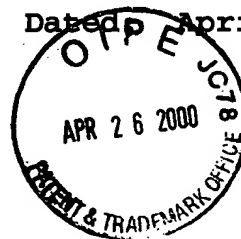
Typed or Printed Name of Person Mailing Correspondence

**\*This certificate may only be used if paying by deposit account.**  
Signature

Dated: April 20, 2000

**Thomas Spinelli**  
Registration No. 39,533**Scully, Scott, Murphy & Presser**  
400 Garden City Plaza  
Garden City, New York 11530  
(516) 742-4343

CC:

**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE****Applicant:** A. Peter Blicher, et al. **Examiner:** Unassigned**Serial No.:** 09/538,209**Art Unit:** Unassigned**Filed:** March 30, 2000**Docket:** 13414 (NECI1083)**For:** METHOD FOR MATCHING A TWO  
DIMENSIONAL IMAGE TO ONE OF A  
PLURALITY OF THREE DIMENSIONAL  
CANDIDATE MODELS CONTAINED IN A  
DATABASE**Dated:** April 20, 2000Assistant Commissioner for Patents  
Washington, D.C. 20231**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, it is requested that the following references, which are also listed on the attached Form PTO-1449, be made of record in the above-identified case.

1. P.N. Belhumeur et al., "What Is the Set of Images of an Object under All Possible Illumination Conditions?", International Journal of Computer Vision, 1998, pp. 1-16;
2. P.N. Belhumuer et al., "The Bas-Relief Ambiguity", In the Proceedings of CVPR97;
3. P.N. Belhumeur et al., "Comparing Images Under Variable Illumination", To appear in the Proceedings of CVPR98;

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner of Patents and Trademarks, Washington, D.C. 20231 on April 20, 2000.

Dated: April 20, 2000

  
Michelle Spina

4. R.A. Brooks, "Symbolic Reasoning Among 3-D Models and 2-D Images", Artificial Intelligence 17, 1981, pp. 285-345;
5. R.A. Brooks, "Model-Based Three-Dimensional Interpretations of Two-Dimensional Images", IEEE Transactions on Pattern Analysis and Machine Intelligence, 1983, pp. 140-150;
6. R.A. Brooks et al., "The AGRONYM Model-Based Vision System", Proceedings of the Sixth International Joint Conference on Artificial Intelligence, 1979, pp. 105-113;
7. P. Dupuis et al., "Direct Method For Reconstructing Shape From Shading", IEEE 1992, pp. 453-458;
8. P. Dupuis et al., "Direct Method for Reconstructing Shape From Shading", DARPA Image Understand, 1992, pp. 563-571;
9. J. Oliensis et al., "Direct method for reconstructing shape from shading", SPIE, 1991, pp. 116-128;
10. A.S. Georghiades et al., "Illumination Cones for Recognition Under Variable Lighting: Faces", To appear in the Proceedings of CVPR98;
11. W.E.L. Grimson et al., "On the Verification of Hypothesized Matches in Model-Based Recognition", IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991, pp. 1201-1213;
12. B.K.P. Horn, "Understanding Image Intensities", Artificial Intelligence 8, 1977, pp. 201-231;
13. B.K.P. Horn et al., "Calculating the reflectance map", Applied Optics, 1979, pp. 1770-1779;
14. B.K.P. Horn, "Hill-Shading and the Reflectance Map", Proceedings of the IEEE, Vol. 69, 1981, pp. 14-47;
15. B.K.P. Horn, "Hill-Shading and the Reflectance Map", Artificial Intelligence Laboratory, pp. 79-120;
16. D.P. Huttenlocher et al., "Object Recognition Using Alignment", DARPA Image Understanding Workshop, 1987, pp. 370-379;
17. D.P. Huttenlocher et al., "Object Recognition Using Alignment", IEEE, 1987, pp. 102-111;

18. D.P. Huttenlocher et al., "Recognizing Solid Objects by Alignment with an Image", International Journal of Computer Vision, 1990, pp. 195-212;
19. D.P. Huttenlocher et al., "Recognizing Solid Objects by Alignment", DARPA Image Understanding Workshop, 1998, pp. 1114-1122;
20. M. Kirby et al., "Application of the Karhunen-Loeve Procedure for the Characterization of Human Faces", IEEE, 1990, pp. 103-108;
21. J.J. Koenderink et al., "Photometric invariants related to solid shape", OPTICA ACTA, 1980, pp. 981-996;
22. D.G. Lowe, "Fitting Parameterized Three-Dimensional Models to Images", IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991, pp. 441-450;
23. D.G. Lowe, "Visual Recognition From Spatial Correspondence And Perceptual Organization", pp. 953-959;
24. D.G. Lowe, "Three-Dimensional Object Recognition from Single Two-Dimensional Images", 1987, pp. 355-395;
25. J. Olienis et al., "A Global Algorithm for Shape from Shading", IEEE, 1993, pp. 692-701;
26. J. Olienis et al., "Provably Convergent Algorithms for Shape from Shading", Image Understanding Workshop, 1993, pp. 1121-1130;
27. J. Olienis, "Shape from Shading as a Partially Well-Constrained Problem", CVGIP 1991, pp. 163-183;
28. J. Olienis, "Shape from Shading as a Partially Well-Constrained Problem", IEEE, 1991, pp. 559-564;
29. J. Olienis, "New Results In Shape From Shading", Image Understanding Workshop, 1990, pp. 145-153;
30. J. Olienis, "Uniqueness in Shape from Shading", International Journal of Computer Vision, 1991, pp. 75-104;
31. J. Olienis, "Existence and Uniqueness in Shape from Shading", IEEE, 1990, pp. 341-345;
32. P.S. Penev, "Local Feature Analysis: A general statistical theory for object representation", 1996, pp. 1-27;

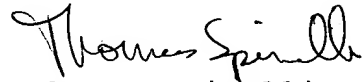
33. L.G. Roberts, "Machine Perception of Three-Dimensional Solids", Massachusetts Institute of Technology Lincoln Laboratory, Technical Report No. 315, 1965, pp. 1-40;
34. A. Shashua, "Geometry and Photometry in 3D Visual Recognition", Massachusetts Institute of Technology, 1992, pp. 1-165;
35. L. Sirovich et al., "Low-dimensional procedure for the characterization of human faces", Optical Society of America, 1987, pp. 519-524;
36. M.A. Turk et al., "Face Recognition Using Eigenfaces", IEEE, 1991, pp. 586-591;
37. S. Ullman et al., "Recognition by Linear Combinations of Models", IEEE, 1991, pp. 992-1006;
38. T. Vetter, "Synthesis of novel views from a single face image", Max-Planck-Institute Technical Report No. 26, 1996, pp. 1-13;
39. T. Vetter et al., "Estimating Coloured 3D Face Models from Single Images: An Example Based Approach", European Conference on Computer Vision Vol. 2, pp. 499-512;
40. P. Viola et al., "Alignment by Maximization of Mutual Information", To appear at the International Conference on Computer Vision, 1995;
41. L. Wiskott et al., "Face Recognition by Elastic Bunch Graph Matching", IEEE Transactions on Pattern Analysis and Machine Intelligence, Vol. 19, 1997, pp. 775-779;
42. P.H. Winston, "Obtaining Shape From Shading Information", The Psychology of Computer Vision, pp. 115-155;
43. B.K.P. Horn et al., "Calculating The Reflectance Map", Artificial Intelligence Laboratory, pp. 115-126;
44. M. Turk et al., "Eigenfaces for Recognition:", Journal of Cognitive Neuroscience, Volume 3, Number 1, 1991, pp. 71-86;
45. C.F. Olsen, "Fast Object Recognition by Selectively Examining Hypotheses", Dissertation submitted to University of California, 1994, pp. 1-136;

46. S. Ullman, "High-level Vision Object Recognition and Visual Cognition", Approaches to Object Recognition, pp. 31-213;
47. T. Alter et al., "Uncertainty Propagation in Model-Based Recognition", International Journal of Computer Vision, 1998, pp. 127-159;
48. Y. Hel-Or et al., "Pose Estimation by Fusing Noisy Data of Different Dimensions", IEEE, 1995, pp. 195-201;
49. R.M. Haralick et al., "Analysis and Solutions of The Three Point Perspective Pose Estimation Problem", IEEE 1991, pp. 592-598;
50. R. Horaud, "New Methods for Matching 3-D Objects with Single Perspective Views", IEEE, 1987, pp. 401-412;
51. D.P. Huttenlocher, "Three-Dimensional Recognition of Solid Objects from a Two-Dimensional Image", MIT Artificial Laboratory, Technical Report 1045, 1988, pp. 1-161;
52. D.P. Huttenlocher et al., "Object Recognition Using Alignment", IEEE, 1987, pp. 102-111;
53. R. Zurmühl, "Praktische Mathematik", Springer-Verlag, 1965, pp. 60-65;
54. M.A. Fischler et al., "Random Sample Consensus: A Paradigm for Model Fitting with Application to Image Analysis and Automated Cartography", SRI International 1981, pp. 381-395;
55. D.P. Huttenlocher et al., "Recognizing Solid Objects by Alignment with an Image", International Journal of Computer Vision, 1990, pp. 195-212;
56. A.R. Brooks, "Symbolic Reasoning Among 3-D Models and 2-D Images", Dissertation 1981, pp. 1-172;
57. B.K.P. Horn, "Shape From Shading; A Method for Obtaining the Shape of a Smooth Opaque Object from one View", Massachusetts Institute of Technology, 1970, pp. 1-197;

Applicants are submitting copies of the above-cited references.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(b), no petition, certification or fee is required.

Respectfully submitted,



Thomas Spinelli  
Registration No. 39,533

Scully, Scott, Murphy & Presser  
400 Garden City Plaza  
Garden City, New York 11530  
(516) 742-4343

TS:cm